**Aim:** a. Write a JDBC program that displays the data of a given table in a GUI Table.

**Code:**

import java.sql.\*;

import javax.swing.JFrame;

import javax.swing.JScrollPane;

import javax.swing.JTable;

import javax.swing.table.DefaultTableModel;

public class JDBCGUITableExample {

public static void main(String[] args) {

JFrame frame = new JFrame("Database Table Display");

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

String url = "jdbc:mysql://localhost:3306/syit";

String username = "root";

String password = "root";

String tableName = "students";

DefaultTableModel tableModel = new DefaultTableModel();

tableModel.addColumn("ID");

tableModel.addColumn("Name");

tableModel.addColumn("Age");

JTable jTable = new JTable(tableModel);

JScrollPane jScrollPane = new JScrollPane(jTable);

frame.getContentPane().add(jScrollPane);

try {

Connection connection = DriverManager.getConnection(url,

username, password);

Statement statement = connection.createStatement();

String query = "SELECT \* FROM " + tableName;

ResultSet resultSet = statement.executeQuery(query);

while (resultSet.next()) {

Object[] row = new Object[3];

row[0] = resultSet.getObject(1);

row[1] = resultSet.getObject(2);

row[2] = resultSet.getObject(3);

tableModel.addRow(row);

}

resultSet.close();

statement.close();

connection.close();

} catch (Exception e) {

e.printStackTrace();

}

frame.setSize(400, 300);

frame.setLocationRelativeTo(null);

frame.setVisible(true);

}

}

**Output:**



A screenshot of a computer

Description automatically generated

**Aim:** b. Write a JDBC program to Show the details of a specified product from a given table selected using Combobox.

**Code:**

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.\*;

public class UserDetails extends JFrame{

    private JComboBox<String> userComboBox;

    private JTextField idTextField;

    private JTextField nameTextField;

    public UserDetails(){

        setTitle("Students");

        setSize(400,150);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLayout(new FlowLayout());

        userComboBox= new JComboBox<>();

        idTextField = new JTextField(20);

        nameTextField= new JTextField(10);

        add(new JLabel("Select ID"));

        add(userComboBox);

        add(new JLabel("Id:"));

        add(idTextField);

        add(new JLabel("Name"));

        add(nameTextField);

        try{

            Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/syit","root","root");

            String query ="SELECT id FROM students";

            PreparedStatement preparedStatement= connection.prepareStatement(query);

            ResultSet resultSet=preparedStatement.executeQuery();

            while (resultSet.next())

            {

                int id=resultSet.getInt("id");

                userComboBox.addItem(Integer.toString(id));

            }

            resultSet.close();

            preparedStatement.close();

            connection.close();

        }

        catch (SQLException e){

            e.printStackTrace();

        }

        userComboBox.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                String selectedId = (String) userComboBox.getSelectedItem();

                if(selectedId!=null)

                {

                    try{

                        Connection connection=DriverManager.getConnection("jdbc:mysql://localhost:3306/syit","root","root");

                        String query ="SELECT id,name FROM students WHERE id=?";

                        PreparedStatement preparedStatement=connection.prepareStatement(query);

                        preparedStatement.setString(1,selectedId);

                        ResultSet resultSet=preparedStatement.executeQuery();

                        if (resultSet.next()){

                            int id = resultSet.getInt("id");

                            String name = resultSet.getString("name");

                            idTextField.setText(Integer.toString(id));

                            nameTextField.setText(name);

                        }

                        resultSet.close();

                        preparedStatement.close();

                        connection.close();

                    }catch (SQLException ex){

                        ex.printStackTrace();

                    }

                }}}); }

    public static void main(String[] args){

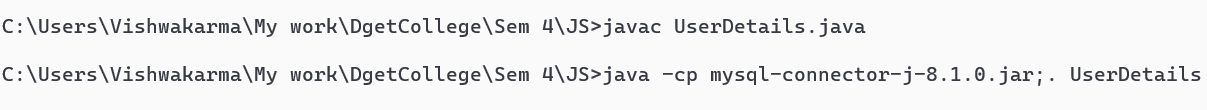
        SwingUtilities.invokeLater(()->{

            UserDetails user = new UserDetails();

            user.setVisible(true);

        }); }}

**Output:**



A screenshot of a computer

Description automatically generated

**Aim:** c. Write a GUI application to Navigate forward and reverse result set data.

**Code:**

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.\*;

public class ForwardBackward extends JFrame{

    private JButton previousButton;

    private JButton nextButton;

    private JTextField dataField;

    private ResultSet resultSet;

    public ForwardBackward() {

        setTitle("Students");

        setSize(400, 100);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLayout(new FlowLayout());

        previousButton = new JButton("Previous");

        nextButton = new JButton("next");

        dataField = new JTextField(20);

        add(previousButton);

        add(dataField);

        add(nextButton);

        try {

            Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/syit", "root", "root");

            Statement statement = connection.createStatement(ResultSet.TYPE\_SCROLL\_INSENSITIVE, ResultSet.CONCUR\_READ\_ONLY);

            String query = "SELECT \* FROM students";

            resultSet = statement.executeQuery(query);

            displayData();

        } catch (SQLException e) {

            e.printStackTrace();

        }

        previousButton.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                try {

                    if (resultSet.previous()){

                        displayData();

                    }

                }

                catch (SQLException ex){

                    ex.printStackTrace();

                }

            }

        });

        nextButton.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                try {

                    if (resultSet.next()){

                        displayData();

                    }

                }

                catch (SQLException ex){

                    ex.printStackTrace();

                }

            }

        });

    }

    private void displayData(){

        try {

            dataField.setText(resultSet.getString("name"));

        }

        catch (SQLException e){

            e.printStackTrace();

        }

    }

    public static void main(String[] args){

        SwingUtilities.invokeLater(()->{

            ForwardBackward app = new ForwardBackward();

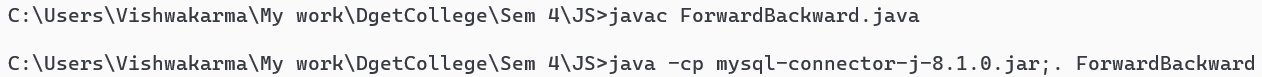
            app.setVisible(true);

        });

    }

}

**Output:**

****

**A screenshot of a computer

Description automatically generated**